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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,935	09/16/2003	Abbas El Gamal	STFD.039PA (S01-276)	2325

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EXAMINER	
PHAM, HOA Q	
ART UNIT	**PAPER NUMBER**
2886	
MAIL DATE	**DELIVERY MODE**
07/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/663,935	GAMAL ET AL.	
	Examiner	Art Unit	
	Hoa Q. Pham	2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings filed on 11/13/06 have been accepted.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al (6,825,927) in view of Wu (6,617,565)

Regarding claims 1, 3, 10-11 and 18-19; Goldman discloses in conjunction with Fig. 3, an active sensor system for detecting optical characteristics of one or more samples 28, the system comprising multiple illumination elements 24 forming multi-pixel illumination source 22, whereby portions of samples 28 are substantially uniquely illuminated by associated ones of said illumination elements 24, multiple detector elements 30 disposed on a substrate and forming a multi-pixel detector 30 interspersed with said illumination elements, whereby light returning in response to said illumination from said portions of said samples are substantially uniquely detected by associated detector elements 30, an illumination control subsystem 38 coupled to said multiple illumination elements 24 for controlling said illumination of said portions of said samples 28, and a processing subsystem 38 coupled to the multiple detector elements 30 for

producing an output indicating a detected optical signal corresponding to said light returning from said portions said samples 28 (col. 3, line 30-col. 5, line 67). Goldman et al teaches a sandwich structure between the LED array 22, sample well container 26, and detector array 30, both the illumination and detection systems in close proximity to said samples (Fig. 3). It is further inherent that the detector (CCD) of Goldman individually detects each sample well 28, therefore each pixels of the CCD array is positionally associated with one or more of the sample wells 28 (col. 4, lines 38-42). Goldman further discloses that an imaging system (i.e. lens and filters) can be used within the system disclosed (col. 5, lines 45-52). Goldman does not explicitly teach that the system disclosed as a whole is integrated on the same substrate; however, such a feature is known in the art as taught by Wu. Wu teaches that the processor circuit (105) is integrated on the same substrate as the sensor array (103), memory (109) and I/O (107) (column 2, lines 37-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the light detection circuit, processing circuit and data storage circuit of Goldman on a single substrate as taught by Wu. The rationale for this modification would have arisen from the fact that by providing such arrangement would reduce the cost of device as suggested by Wu (column 2, lines 44-46).

Regarding claim 2, see memory (42) in figure 3 of Goldman.

Regarding claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a temperature controller for controlling the temperature of the measurement system of Goldman et al due to the increase in the

temperature of the light source or detector; thus, an accuracy of the measurement is obtained.

Regarding claims 5 and 15, see column 4, line 45 of Goldman for the use of photodiode.

Regarding claim 6, Goldman teaches the use of an optical filter for restricting a range of wavelength, thus it is inherent that the filter is a color filter (column 1, lines 38-45).

Regarding claims 7-8, see column 5, lines 9-13 of Goldman for logic circuit such as timers, counters and latches; thus, the clock signal is inherently in this logic circuit.

Regarding claims 9 and 17, see column 3, line 36 and column 5, lines 3-9 of Goldman for the use of A/D and D/A converters.

Regarding claims 12-14, it would have been a matter of desire choice to choose the photosensitive area matched to the assay size from 1 um to 2 mm. The rationale for this modification would have arisen from the fact that matching between the photosensitive area and the assay size would provide a better signal from the detector.

Regarding claim 16, see column 5, lines 61-62 of Goldman for calibration of the fluorometer.

Regarding claim 20, Goldman teaches the use of a camera (column 4, lines 45-46).

Regarding claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include to use the basic device of

Goldman et al for determine different characteristics of the sample if additional measurements are desired.

Regarding claims 22-25, see column 3, lines 18-29 of Goldman for detecting noise level within the wells.

Regarding claims 26-28, Goldman et al teaches the use of a personal computer and a digital to analog converter and combination with accessory circuitry (column 5, lines 3-7) and does not clearly teach the use of a decoder; however, it would have been obvious to replace the digital to analog converter of Goldman et al by a decoder circuitry for the same purpose of providing an analog data, thus they are function in the same manner.

Regarding claim 29, see claim 21 above.

Regarding claim 30, see column 5, lines 9-13 for logic circuit such as timers, counters and latches; thus, the clock signal is inherently in this logic circuit.

4. Claims 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al and Wu as applied to claim 26 above, and further in view of Herron et al (6,222,619).

Goldman et al teaches the use of microplates for preparing the samples and does not use a plurality of reservoirs for delivering the sample; however, such a feature is known in the art as taught by Herron et al. Herron et al, from the same field of endeavor, teaches the use of a plurality of reservoirs (102, 104, 106) for preparing the samples (see figure 1). It would have been obvious to one having ordinary skill in the art

at the time the invention was made to replace the sample preparation device of Goldman et al by a plurality of reservoirs of Herron et al because they are function in the same manner.

Response to Arguments

5. Applicant's arguments filed 5/7/07 have been fully considered but they are not persuasive.

a. Applicant's remarks, page 7, argues that Goldman does not teach the use of a single detector (30) and does not teach a CCD array. The argument is not deemed to be persuasive because: (1) Goldman teaches that a light source array are used for illuminating the wells (28) individually so that the fluorescence from each well (28) can be individually measured by a emission light detector (30) (column 6, lines 1-22 and column 7, lines 52-55); (2) Goldman teaches that the detector could be a CCD (column 4, lines 43-46); (3) claims 4, 8 and 19 of Goldman teaches that at least one emission light detector is used at a plurality of positions. Thus, Goldman inherently teach the use of a CCD array.

b. In response to applicant's argument that Wu reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Wu teaches that the processor circuit (105) is integrated on the

same substrate as the Sensor array (103), memory (109) and I/O (107) (column 2, lines 37-46), it does not matter what types of optical detection devices, the optical elements can be arranged on a substrate, thus reduce the cost of device (column 2, lines 44-46) and a compact device is obtained. Thus, the teaching of Wu is pertinent to the particular problem with which the applicant was concerned.

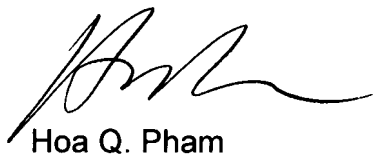
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on Monday through Friday, 8:00AM TO 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on (571) 272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Hoa Q. Pham
Primary Examiner
Art Unit 2886

HP
July 17, 2007